

# What's in a Subject Line? Health Message Framing in Emails



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## MOTIVATION

- Most university students report that stress is an issue in their lives, and they feel unable to manage their stress. Demand for mental health services on college campuses is on the rise.<sup>1</sup>
- UMN tries to address this with Stress Check-Ins, where students meet with a peer to develop strategies for managing stress. This preventive, public health approach may be a long term solution to mitigating a rise in stress on college campuses.
- Currently, these are primarily promoted by email. But students receive many emails everyday, and often don't open all of them, so many students may remain unaware of and fail to utilize these services.
  - Average open rate for 2016-17: 63.6%
  - Example subject line: "Keep your stress in check"

**Can emails be crafted to result in higher open rates and increase awareness of public health services?** A possible solution is to change the subject line using health message frames. This study will examine how changing the frame of the subject line affects open rates in emails about a stress management program sent to university students.

## BACKGROUND

- Messages can be loss frame, emphasizing what one would lose by engaging in a negative behavior, or gain frame, emphasizing what one would gain by engaging in a positive behavior.
- Theory and research support gain frame messages to encourage preventive behaviors, such as the Stress Check-In.<sup>2, 3</sup>
- Gain frame messages can contain a positive outcome that one would obtain (pure gain), or a negative outcome that one would avoid (non-loss):
  - Pure gain: "Drinking tea makes you feel calmer"
  - Non-loss: "Drinking tea helps prevent stress"
- Less research exists on the difference between gain and non-loss frames.
- Even less research exists on message framing in emails, but marketing research has examined various parts of an email, including subject line, that affect open rates.
- Email is more efficient and becoming a more common way of communicating health information, warranting further study of the best way to reach individuals in this particular environment.

**It was hypothesized that gain framed subject lines would result in higher open rates than non-loss framed subject lines, and both of the framed subject lines would result in higher rates than the control subject line.**

## METHODS

- Our sample: 38,538 email addresses of students enrolled at UMN Twin-Cities in Fall 2017
  - Undergraduate (74.78%), graduate (18.29%), and professional (6.93%) students
- Students were randomized into six conditions: email sent in either the first or second month of the term with one of three subject lines (gain, non-loss, and control). This was independently repeated for the third and fourth months.
- Experimental subject lines:
  - Gain: "Feel more under control - Schedule a Stress Check-In"
  - Non-loss: "Avoid feeling out of control - Schedule a Stress Check-In"
  - Control: "Schedule a Stress Check-In"
- The control subject line contained no frame, but provided an action instruction, or an explicit instruction on how to execute a behavior. Action instructions have been proven to be useful in motivating behavior change.<sup>4</sup>

## RESULTS

### Open Rates by Mailing and Condition

Condition	September & October	November & December	Total
Control	71.268%*	58.527%	64.967%
Gain Frame	69.046%	56.608%	62.818%
Non-loss Frame	67.794%*	57.539%	62.617%
$\chi^2$	(2, N = 38538) = 37.53, p < .001	(2, N = 38538) = 9.62, p = 0.008	(2, N = 77076) = 37.58, p < .001

\* A post-hoc chi-squared test revealed these cells were statistically different than expected after applying a Bonferroni correction.

- **Emails with the Action Instruction control subject line had higher open rates than either frame**
- In Sept/Oct, gain frame was opened significantly more than non-loss frame
- Data was analyzed according to graduate level, college, and year in school:
  - Liberal arts students were more likely to open gain than non-loss,  $\chi^2$  (2, N = 31927) = 21.24, p < .001; students in math and sciences were more likely to open non-loss than gain frames,  $\chi^2$  (2, N = 23644) = 10.31, p = .006
  - Graduate students were more likely to open gain than non-loss frames in Sept/Oct,  $\chi^2$  (2, N = 9720) = 16.875, p < .001; no difference existed for undergraduates

## DISCUSSION

**The control subject line with an action instruction only produced the highest open rates, which contradicts the hypothesis, and produced higher open rates than previous years.**

- May be no benefit to adding a frame to an email subject line
  - Action instructions alone may be enough to encourage behavior change if the intention already exists
  - Shorter subject line may also have boosted open rates
- Inconclusive evidence to whether gain or non-loss frame resulted in higher open rates
  - Although theory supports gain frame for prevention behaviors, students who are already stressed may not view this behavior as preventive
  - Change in the time of semester likely changed stress levels and affected how students respond to different frames

### Limitations and Future Directions

- Content of the subject lines focused on feelings of control, but could be expanded to include other consequences of stress management
- Data from both mailings combined are not completely independent: conditions were completely re-randomized among the same participants, so students did not necessarily receive the same subject line, but could have

## CONCLUSION

Using an action instruction only subject line increased the likelihood of the email being opened by students; emails with this control subject line were open by at least 500 more students than either framed subject line. Practitioners should use action instructions when crafting email subject lines promoting a health behavior change. There was no conclusive evidence that either the gain or non-loss frame resulted in higher open rates. Thus, this study calls for further study of the use of gain and non-loss frames in email-based health messaging.

## REFERENCES

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